Module 6

Data Visualization & Volume Calculation Using eCoastal Tools

Module Overview

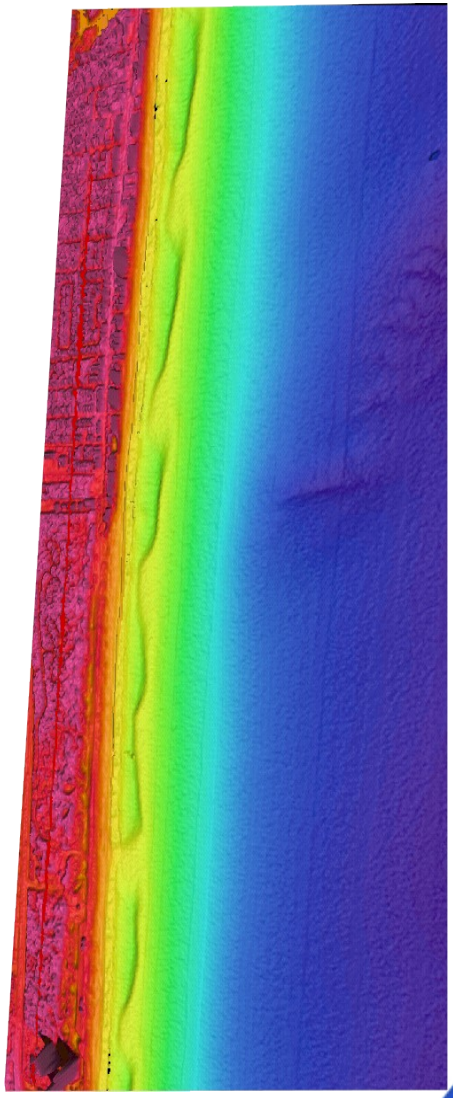
1. Introduction: eGIS: Survey Tools
2. Exercise A: Importing XYZ Coordinates into ArcGIS
3. Exercise B: Creating a TIN from Lidar Data
4. Exercise C: Creating Contours from TIN
5. Exercise D: Creating a Grid Surface from Lidar Data
6. Exercise E: Creating Grid Surface Boundaries
7. Exercise F: Comparing Grid Surfaces

Module Introduction

- By using remotely sensed data combined with ground reference points and specialized processing software, Lidar enables the measurement of Earth surface elevation for natural and manmade features.

- Lidar datasets can be massive – some surveys can be terabytes in size! Many first-time lidar users are overwhelmed by the file size and amount of data.

- The tools in the following exercises will help you understand lidar formats and techniques for managing the data for analysis.



Lidar Data Deliverables

- Currently, all bathymetric and topographic lidar delivered by JALBTCX (Joint Airborne Lidar Bathymetry Technical Center of Expertise) is delivered in:
  - XYZ ASCII text file
  - ESRI Shapefiles
  - 1 m ESRI Grids (coming soon)
- For data management, data for a survey area has been divided into 5km sections

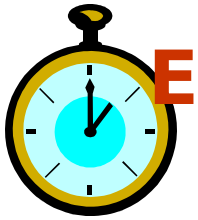
Instructor Demonstration

Working with Lidar data & the
eGIS: Survey Tools

Exercises A-F:
Working with Lidar Data

What to Expect:

Lidar data is usually delivered in an XYZ text file format. These exercises will lead you through the necessary steps to format and analyze the bathymetric datasets. You will use standard tools in ArcGIS, the Spatial Analyst & 3D Analyst extension, and the some of the eCoastal tools.



Estimated Length:
45 Minutes

Module Summary

- The eGIS: Survey Tools were created to assist the user by providing a GUI interface to common practices of the coastal engineer.
- Calculations generated with eCoastal's Survey Tools will be used to build a Regional Sediment Budget in the next module.